



DEPARTMENT OF THE ARMY  
PINE BLUFF ARSENAL  
PINE BLUFF, ARKANSAS 71611

June 21, 1984

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SUPERFUND BRANCH

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Mr. Tim Perdue  
US Environmental Protection Agency  
Region VI  
Interfirst Two Building  
1201 Elm Street  
Dallas, Texas 75270

Dear Mr. Perdue:

Enclosed are milestones and a summary of actions taken to satisfy both the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Emergency Response Compensation and Liability Act (CERCLA) at Pine Bluff Arsenal (PBA), as requested in your letter dated May 17, 1984.

As indicated in our telephone conversation on May 24, 1984, the Closure/Post-Closure and Contingency Plans prepared by SCS Engineers for PBA sites have previously been provided EPA Region VI. Also in my telephone conversation with Mr. Steve Gibrain on June 13, 1984, he indicated that you also had a copy of the USAEHA report and the fiscal year (FY) 86 MCA (Major Construction Army) project to provide funding for closure of CERCLA sites at PBA. The geotechnical studies and design for closure are in progress on the FY 86 MCA Project and will be accomplished by sites, prior to FY 86 funding (October 1985). A copy of the closure plan for site 20A (Depot South Burning Pit) is enclosed. A similar detailed plan will be provided for each of the sites.

Should you have any questions or need additional information, please contact me at (501) 541-3578.

Sincerely,

WENDELL L. FORTNER  
Chief, Environmental Management Office

Enclosures

CF:  
EPA, VI/Mr. Highland  
ADPC&E  
AMCCOM

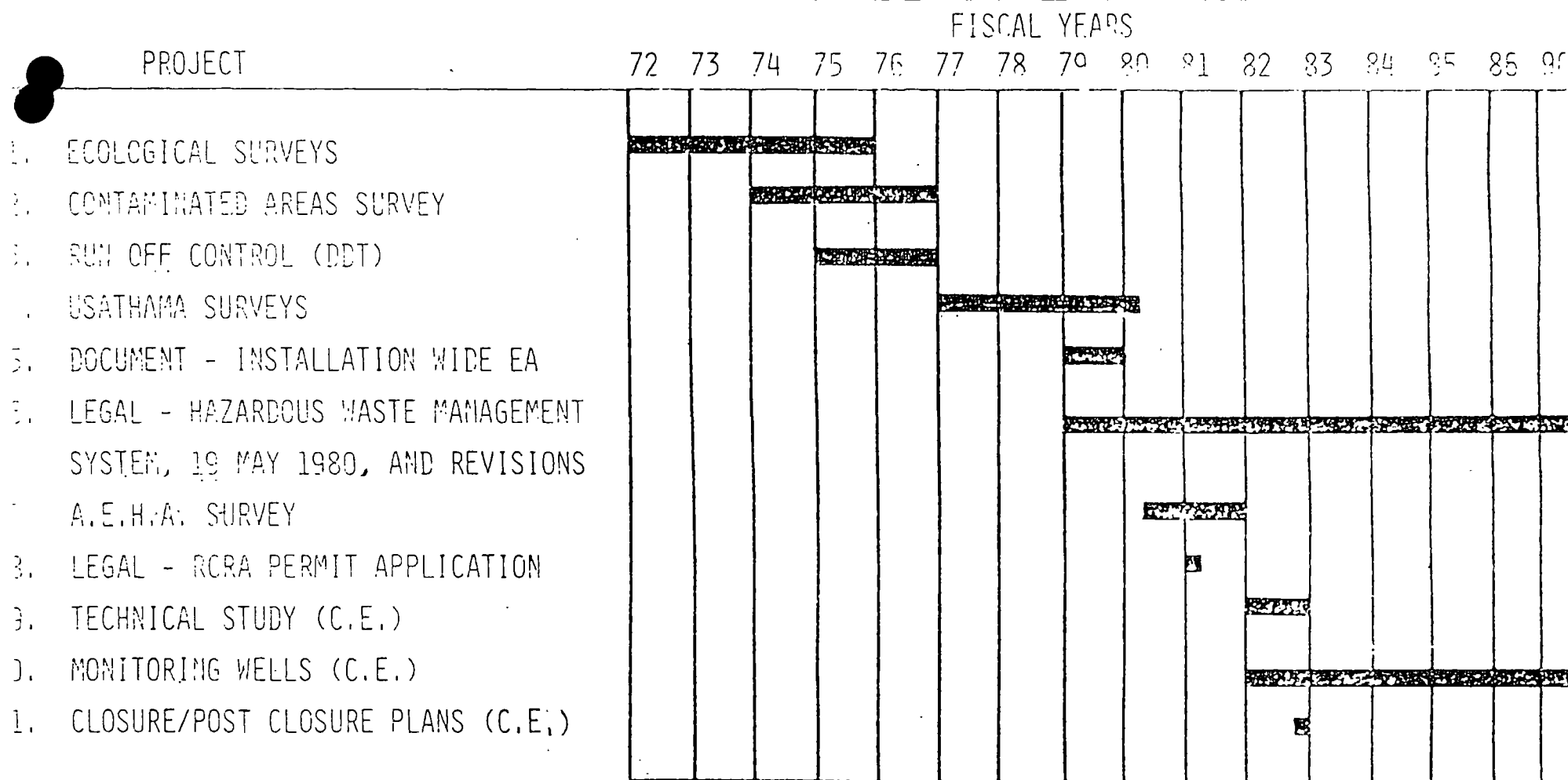
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RCRA\*/CERCLA\*\* MILESTONES FOR HAZARDOUS WASTE AT PINE BLUFF ARSENAL SUPERFUND BRANCH



\* Resource Conservation Recovery Act

\*\* Comprehensive Emergency Response Compensation and Liability Act

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FISCAL YEARS

PROJECT

72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90

13. RUN-OFF CONTROL  
(OLD CHEM MFG AREA)

14. HAZARDOUS WASTE  
LANDFILL & BUILDING  
DEMOLITION (MCA)

MCA FOR RUN-OFF  
CONTROL/CLOSURE  
RESULTING FROM AEHA  
SURVEY (LINE 7) AND  
CE TECHNICAL STUDY  
(LINE 9).

REPORT OF ACTIONS TAKEN TO SATISFY  
RCRA\*/CERCLA\*\* REGULATIONS AT PBA

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The following narrative reports actions listed in the RCRA/CERCLA milestone  
(Encl 1 to basic letter):

1. ECOLOGICAL SURVEYS: The initial ecological surveys (FY 72-77), conducted by CSL Ecology Branch, at PBA indicated that waste from past operations at the installation needed to be investigated, since some areas were biologically sterile resulting from past indiscriminate waste disposal. The results of the surveys are reported in 1-4.
2. CONTAMINATED AREAS SURVEY: Based on the ecology finding, PBA requested and received funding to conduct a contaminated area (CA) survey of 31 historic but suspected areas where past indiscriminate dumping occurred. The survey was conducted in FY 74-76, resulting in the identification of the following contaminants: DDT and related isomers, arsenic, barium, lead, mercury, organic dyes, elemental phosphorus and zinc in PBA soils. In addition to the identification of the contaminants, the CA survey also identified the extent and intensity of contamination at each designated site. The results of the survey (ref 5) indicated that 13 sites required no additional action (including one site that was cleaned-up and closed during the survey), seven sites required clean-up and closure and 11 sites required immediate up-grade for RCRA/CERCLA compliance.
3. RUN-OFF CONTROL (DDT): A run-off control project for DDT was requested, funded and initiated in FY 76 to abate the DDT discharge in accordance with the state standard. This program was carried out essentially as follows: In the southern part of the Arsenal, where DDT had been dumped in an old landfill, a stream (White Creek) was diverted around the landfill, and the landfill itself was covered with clay, compacted, surfaced, sloped, topped with fertile soil, grassed over, fenced off and posted with protective signs. This area is now in compliance with RCRA/CERCLA. In the northern part of the Arsenal, where the DDT had been manufactured, more extensive preparatory measures were necessary. Three sediment retention basins were constructed, each downslope from a major DDT deposit. A small tributary of Triplett Creek, upstream of the deposits, was diverted from 800 feet to a neighboring tributary to reduce the scope-requirement for the third basin. Then the crystalline DDT material was scooped up and placed in the hydraulically-sealed foundations (basements) of previously razed buildings located nearby. Finally, these DDT-filled basements were sealed off with clay and otherwise treated like the landfill in the south. While the basements were large enough to accept the crystalline and concentrated DDT material, a large volume of contaminated soil was also loosened by the scooping and grading. This contaminated dirt was gathered onto the property adjacent to the old manufacturing site and there covered with its own clay, topsoil, etc., in the manner of the other sites. The landfills are in compliance with current RCRA/CERCLA rules.

\* RCRA - Resource Conservation and Recovery Act

\*\*CERCLA - Comprehensive Emergency Response Compensation and Liability Act.

4. USATHAMA SURVEYS: The Office of Project Manager for Chemical Demilitarization and Installation Restoration, now USATHAMA, conducted surveys at PBA during FY 77-79 which consisted of drilling 111 groundwater monitoring wells to determine if contaminants from the installation operations were migrating across the boundaries by surface or subsurface transport. The survey found no migration of contaminants off Arsenal property by either medium. The boundary concept was prior to RCRA rules which require monitoring wells near each site. The USATHAMA survey of areas within the Arsenal's boundary, however, identified contaminants in both soil (arsenic, barium, elemental phosphorus, DDT and related isomers, lead and zinc) and water (mercury and low levels of DDT and arsenic). The results of the survey are reported in reference 5.
5. DOCUMENT - PBA INSTALLATION WIDE EA: (4 volumes not included - published March 1979, reference 6).
6. LEGAL - HAZARDOUS WASTE MANAGEMENT SYSTEM, FEDEARL REGISTER: Volume 45, No. 98, Book 2, pp. 33063 - 33285, 19 May 80, and revisions (not included).
7. AEHA SURVEY: AEHA conducted a hazardous waste survey of 42 PBA sites, both current and historic, during August/October 1980 to determine their compliance and/or deficiency with regard to RCRA regulations. The results (ref 7) indicated that 11 sites were in compliance with 31 sites required some type of action to be in compliance with RCRA. Twenty of the 31 sites needed immediate attention with 15 of 20 sites requiring groundwater monitoring wells, three sites requiring run-on/run-off control and two sites requiring removal of hazardous waste. Eleven of the 31 sites required clean-up and closure.
8. LEGAL: RCRA Interim Permit application, November 1980 - filed with EPA.
9. TECHNICAL STUDY (C.E.): SCS Engineers, Long Beach, CA, under contract with the C. E., prepared closure/post closure/contingency plans for the 31 hazardous sites at PBA (attachment to basic letter, line 11) and provided technical data for an MCA submission (attachment 1 to basic letter, line 16) to meet RCRA compliance. A copy of the SCS Engineering proposal has been reviewed (Attachment 1) by Region VI and Arkansas Department of Pollution Control and Ecology.
10. MONITORING WELLS: An exigent minor MCA project (82E) was submitted, as a result of the AEHA survey, to install 53 additional groundwater monitoring wells around the hazardous waste sites identified by the AEHA survey (ref 7). The monitoring well installation was completed before 19 November 1981, the date that RCRA regulation required groundwater monitoring to begin. These sites were delisted, after CERCLA was established, however, groundwater monitoring continued to provide data necessary for development of closure specifications.
11. CLOSURE/POST CLOSURE PLANS (C.E.): See line 9 above.
12. RCRA INSPECTION (STATE/EPA)/REPORT: PBA has been inspected (15 June 1981) under the interim RCRA rules by both the State of Arkansas (active pollution abatement facilities) and the EPA relative to the "historic" sites. Both aerial photographs and the AEHA report (ref. 1b of the basic letter) were provided. As a result of the inspections, additional groundwater monitoring wells were installed around two sites (12 and 38) and analyses initiated.

13. RUN-OFF CONTROL: A run-off control project (FY 83 MCA project, line item 68) is under construction for containment of hazardous chemical residue (primarily arsenic) from the old World War II chemical manufacturing area (5) and lewisite disposal site. The project will prevent off-post migration, through Phillips Creek sediment, of arsenic and other contaminants, to the Arkansas River. A hazardous waste permit to construct and operate the surface impoundment was issued by both Region VI EPA and ADPC&E. Construction is expected to be completed by October/November 1984.

14. HAZARDOUS WASTE LANDFILL AND DEMOLITION OF CONTAMINATED BUILDINGS: MCA FY 83 PROJECT LINE ITEM 66: A hazardous waste landfill is under construction for final disposition of contaminated rubble from the demolition of the old World War II chemical manufacturing buildings and sewer lines and placement of waste from the production of a Binary component. A hazardous waste permit has been issued by both Region VI EPA and ADPC&E. One cell must be completed and the run-off control surface impoundment (Item 13 above) operational prior to initiation of building demolition and sewer removal.

15. CLOSURE OF CERCLA (PAST) SITES AND CONSTRUCT HAZARDOUS WASTE LANDFILL: A FY 86 MCA project has been submitted and approved through Department of Army for closure of 20 CERCLA sites, run-off control at two active sites, clean-up around two additional active sites and provide a hazardous waste landfill for material that cannot be closed in place and waste from pyrotechnic production. A compliance agreement exists between Army and the Arkansas Department of Pollution Control and Ecology to accomodate legally these closures and construction of landfill cells.

#### REFERENCES

1. EA Special publication EB-SP-74D25, Preliminary Environmental Survey PBA, Dec 72 - Mar 75; Pinkham, Pearson, Bender
2. EA Technical Report EO-TR-76077, Effects of Elemental Phosphorus on the Biota of Yellow Lake, Mar 74 - Jan 75; Pearson, Bender et al
3. EA Technical Report EB-TR-76038, Results of Aquatic Surveys at Pine Bluff Arsenal, Arkansas, Sep 73 - Oct 74; Manuel, Bender, Pearson
4. EA Technical Report, ED-TR-77029, Terrestrial Ecological Surveys at Pine Bluff Arsenal, Pine Bluff, AR, 1977; Pinkham, Hertert
- ✓ 5. Pine Bluff Arsenal Technical Memorandum No. 14, Installation Restoration (IR) Activities 1970-1979, October 1981; Fortner, Owen, Shook, McDonald
6. Pine Bluff Arsenal, Installation-Wide Environmental Assessment, March 1979; Shook, et al.
- ✓ 7. US Army Environmental Hygiene Agency Control No. 81-26-8219-81, Army Pollution Abatement Program Study No. D-1620-S, Hazardous Waste Special Study, Pine Bluff Arsenal, Pine Bluff, Arkansas, August 1980; Gates